	Application No.	Applicant(s)	
Notice of Allowability	09/808,067	ABBOTT ET AL.	
	Examiner	**Art Unit**	
	Scott L. Jarrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *1/4/2007*.

2. ☒ The allowed claim(s) is/are *1,2,4-18,20-27,30-48,50-55,58 and 60-84*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
    Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date *1/4/07*

4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Pamela Riley (Reg. No. 40,146) on March 12, 2007.

Currently Claims 1-2, 4-18, 20-27, 30-48, 50-55, 58, 60-84 are pending with Claims 28-29, 56-57, 59 and 86 being previously canceled and Claims 3, 19, 49 and 85 canceled herein. Claims 1-2, 4-18, 20-27, 30-48, 50-55, 58, 60-84 are allowed.

Amendment to the Title:

Method and System for Determining An Economically Optimal Dismantling of Machines.

Amendments to the Claims:

1. (Currently Amended) A computer-implemented method for optimizing a supply to meet a demand, said method comprising:
    - determining a parts demand, <u>wherein the determined parts demand further comprises an internal and external demand</u>;
    - determining a machine supply, wherein said machine supply comprises in-stock machines;
    - maintaining a database of machine supply information, wherein said machine supply information comprises:
        - a record of different machine types in said machine supply;
        - a number of said different machine types in said machine supply;
        - a set of part types in each one of said different machine types;
        - a corresponding monetary value for each part type;
        - a number of each part type in each one of said different machine types;
        - refurbishing cycle times for said each part type; ~~and~~
        - repair costs for said each part type; and
        <u>- at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end, percentages of said different machine types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations</u>; and
    - configuring an optimal dismantling configuration to meet the said parts demand as a function of said machine supply information, wherein said configuring comprises:
    - generating and outputting a list of said in-stock machines from said machine supply to dismantle such that a cost of meeting said parts demand is minimized;
    - determining whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list; and
    - generating a report of suggested additional machines to purchase for dismantling.

3.   (Canceled)

18. (Currently Amended) The method of claim 17 wherein the summation formula is

$$\sum_i \sum_j \left(RVj \bullet \{Xij\} \right) - \sum_i \left(TCi \bullet \{Yi\} \right) - \sum_j \left(PCi \bullet \{Yi\} \right)$$

<u>where</u>
        <u>RVj</u> <u>= revenue sales from part j sales;</u>
        <u>TCi</u> <u>= net investment balance (cost) of machine i;</u>
        <u>PCi</u> <u>= processing cost of de-manufacturing machine i; and</u>

Yi = machines required to fulfill the desired parts.

19.   (Canceled)

30. (Currently Amended) An economic supply optimization system comprising:
- a processor;
- a data storage device operably connected to said processor, wherein said data storage device is adapted to provide data storage for said system; and
- a database of machine supply information on said data storage device, wherein said machine supply information comprises:
- a record of different machine types in a machine supply, wherein said machine supply comprises in-stock machines;
- a number of said different machine types in said machine supply;
- a set of part types in each one of said different machine types;
- a corresponding monetary value for each part type;
- a number of each part type in each one of said different machine types;
- refurbishing cycle times for said each part type;
- repair costs for said each part type; and
- at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end, percentages of said different machine types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations; and

- a program executable by said processor to:
- determine a machine supply, wherein said machine supply comprises in-stock machines;
- determine a parts demand, wherein the determined parts demand further comprises an internal and external demand;
- configure an optimal dismantling configuration to meet the said parts demand as a function of said machine supply information in order to generate and output a list of said in-stock machines from said machine supply to dismantle such that a cost of meeting said parts demand is minimized, wherein said program is further executable to determine whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list and to generate a report of suggested additional machines to purchase for dismantling.

46. (Currently Amended) The system of claim 45 wherein the summation formula is

$$\sum_i \sum_j (RVj \bullet \{Xij\}) - \sum_i (TCi \bullet \{Yi\}) - \sum_i (PCi \bullet \{Yi\})$$

where

RVj = revenue sales from part j sales;

TCi = net investment balance (cost) of machine i;

PCi = processing cost of de-manufacturing machine i; and

Yi = machines required to fulfill the desired parts.

49. (Canceled)

58. (Currently Amended) A program storage device readable by computer and tangibly embodying a program of instructions executable by said computer to perform a method for optimizing a supply to meet a demand, said method comprising:

    - determining a parts demand, wherein the determined parts demand further comprises an internal and external demand;

    - determining a machine supply, wherein said machine supply comprises in-stock machines;

    - maintaining a database of machine supply information, wherein said machine supply information comprises:

        - a record of different machine types in said machine supply;

        - a number of said different machine types in said machine supply;

        - a set of part types in each one of said different machine types;

        - a corresponding monetary value for each part type;

        - a number of each part type in each one of said different machine types;

        - refurbishing cycle times for said each part type; and

        - repair costs for said each part type; and

        - at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end, percentages of said different machine types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations; and

    - configuring an optimal dismantling configuration to meet the said parts demand as a function of said machine supply information, wherein said configuring comprises:

    - generating and outputting a list of said in-stock machines from said machine supply to dismantle such that a cost of meeting said parts demand is minimized;

    - determining whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list; and

    - generating a report of suggested additional machines to purchase for dismantling.

75. (Currently Amended) The program storage device of claim 74 wherein the summation formula is

$$\sum_i \sum_j (RVj \bullet \{Xij\}) - \sum_i (TCi \bullet \{Yi\}) - \sum_i (PCi \bullet \{Yi\})$$

where

RVj = revenue sales from part j sales;

TCi = net investment balance (cost) of machine i;

PCi = processing cost of de-manufacturing machine i; and

Yi = machines required to fulfill the desired parts.

85.   (Canceled)

REASONS FOR ALLOWANCE

Claims 1-2, 4-18, 20-27, 30-48, 50-55, 58, 60-84 are allowed. The following is an examiner's statement of reasons for allowance.

The present invention is directed to system and method for determining optimal dismantling configurations of machines as a function of a plurality of supply factors (information) in order to meet internal and external parts demands at the lowest cost.

None of the prior art of record, taken individually or in any combination, teach, inter alia, a computer-implemented method, system and a program storage device readable by computer and tangibly embodying a program of instructions executable by said computer to perform a method for optimizing a supply to meet a demand comprising determining optimal dismantling configurations of machines as a function of a plurality factors (supply information) including a record of different machine types in said machine supply, refurbishing cycle times and repair costs for said each part type and at least one of forecasted end of lease machine returns, propensities of said different machine types to yield specific parts at lease end, percentages of said different machine types which yield certain options when returned to stock at said lease end, and defined machine-to-parts de-manufacturing profit calculations as recited in independent Claims 1, 30 and 58.

Further none of the prior art of record, taken individually or in any combination, teach, inter alia, a computer-implemented method, system and a program storage

device readable by computer and tangibly embodying a program of instructions

executable by said computer to perform a method for optimizing a supply to meet a

demand further comprising generating and outputting a list of machines from the in-

stock machine supply to dismantle in order to minimize the cost of meeting a parts

demand; determining whether additional machines should be purchased for dismantling

in order to meet the parts demand at a lower cost than dismantling the in-stock

machines on the list; and then generating a report of suggested additional machines to

purchase for dismantling as recited in independent claims 1, 30 and 58.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- van der Laan et al., Production Planning and Inventory Control with Remanufacturing and Disposal (1997), teaches a method for meeting customer demands for products through the production of new products and the remanufacturing of used products. Specifically van der Laan et al. teach a integrated "push/pull" production planning technique to meet demand.

- Meacham et al., Optimal Disassembly Configurations for Single and Multiple Products (1999), teach a method for determining optimal (e.g. most profitable, minimizes cost) machine disassembly configurations to meet component (parts) demand. Meacham et al. teach that the method addresses "The problem of determining the cost-minimizing mix of disassembly configurations to user for a set of multiple products with common components that are common to a number of products and limited disassembly capacity and inventory constraints is also formulated."

- Daniel et al., Production Planning and Control for Remanufacturing (2000), teach a survey of industry remanufacturing efforts, wherein the authors focus on seven characteristics of remanufacturing efforts and how industry addresses those characteristics.
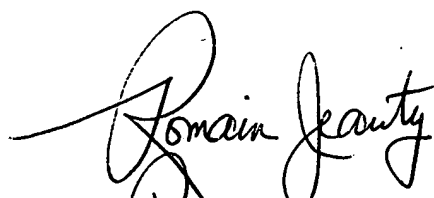
Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-
7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a
USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Scott Jarrett
Asst. Examiner
3/15/2007